

Remarks

This communication is considered fully responsive to the first Office Action mailed December 15, 2005. Claims 12-19 were previously withdrawn. Claims 1-11 were examined. Claims 1-11 stand rejected. Claims 1 and 5 are amended. No claims are canceled. New claims 20-27 have been added. No additional fees are believed to be due at this time. Reexamination and reconsideration of claims 1-11 and 20-27 are respectfully requested.

No New Matter

Claims 1 and 5 are amended to recite "forming a conformal silicon nitride film on the substrate." Claims 20-27 have been added, reciting additional features of the conformal silicon nitride film. Support for these amendments is found, e.g., on page 10, lines 28 to page 11, line 6 in the specification and Figure 2 as originally filed. Applicant believes no new matter is added by these amendments.

Claim Rejections - 35 U.S.C. 102(e)

The Office Action rejected claims 1-3 and 5-10 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Publication No. 2002/0189545 to Matsumura, et al. (hereinafter referred to as "Matsumura"). Applicant respectfully traverses this rejection.

Claim 1 positively recites "supplying silane, ammonia, and hydrogen gases to the heating member." Matsumura fails to disclose at least these recitations.

The Office Action cites to paragraph [0020] in Matsumura. However, this background discussion in Matsumura discloses using a mixed gas of silane

and hydrogen in the case where silicon film is formed, and alternatively, using a mixed gas of silane and ammonia where the silicon nitride film is formed. The Office Action also cites to paragraph [0112] in Matsumura. However, this is a discussion of a separate process including introducing one or more of the gases "hydrogen, argon, helium, neon, krypton, xenon, nitrogen, or ammonia." Neither of these citations in Matsumura discloses supplying silane, ammonia, and hydrogen gases to the heating member.

Claim 1 is also amended to recite "forming a conformal silicon nitride film on the substrate." As discussed in Applicant's specification, the silicon nitride films deposited in accordance with the teachings of the present invention are highly advantageous in that they exhibit highly conformal, (i.e., step) coverage of very small-scale features which may be provided on the substrate. Matsumura does not disclose forming a conformal silicon nitride film on the substrate.

For at least the foregoing reasons claim 1 is believed to be allowable and Applicant respectfully requests withdrawal of the rejection of claim 1.

Claims 2-3 depend from claim 1, which is believed to be allowable. Therefore, claims 2-3 are also believed to be allowable for at least the same reasons as claim 1. Withdrawal of the rejection of claims 2-3 is respectfully requested.

Claim 5 positively recites "supplying a silicon precursor material," "supplying a nitrogen precursor material," and "supplying a process gas." Claim 5 is also amended to recite "forming a conformal silicon nitride film."

Claim 5 fails to disclose at least these recitations as discussed above for Matsumura.

claim 1. Therefore, claim 5 is believed to be allowable and Applicant respectfully requests withdrawal of the rejection of claim 5.

Claims 6-10 depend from claim 5, which is believed to be allowable. Therefore, claims 6-10 are also believed to be allowable for at least the same reasons as claim 5. Withdrawal of the rejection of claims 6-10 is respectfully requested.

New claims 20-27 include numerous additional recitations which Applicant believes are not disclosed by the prior art of record.

Claim Rejections - 35 U.S.C. 103(a)

The Office Action rejected claims 4 and 11 under 35 U.S.C. 102(e) as being unpatentable over Matsumura. Applicant respectfully traverses this rejection.

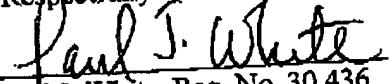
Claim 4 depends from claim 1, and claim 11 depends from claim 5. Both claims 1 and 5 are believed to be allowable over Matsumura as discussed above. Therefore, it follows that claims 4 and 11 are also allowable for at least the same reasons.

Claims 4 and 11 are believed to be allowable for at least these reasons. Withdrawal of the rejection of claims 4 and 11 is respectfully requested.

Conclusion

The Applicant respectfully requests that a timely Notice of Allowance be issued in this matter.

Dated: March 14, 2006.

Respectfully Submitted,
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